

CLAIMS

What is claimed is:

1. A method for extracting information from input data, comprising:

(a) mapping said input data into a data object network, said input data comprising semantic units, wherein a semantic cognition network comprises said data object network, a class object network and a processing object network, said semantic cognition network using a set of algorithms to process said semantic units;

(b) defining a processing object in said processing object network by selecting a data domain in said data object network, a class domain in said class object network and an algorithm from said set of algorithms, said processing object comprising said data domain, said class domain and said algorithm;

(c) processing said semantic units in said processing object network using said processing object.

2. The method of claim 1, wherein said defining in step (b) is performed multiple times, and wherein each of said multiple times occurs in parallel.

3. The method of claim 2, further comprising, between step (b) and step (c):

(d) linking plural processing objects defined when step (b) is performed multiple times, wherein said plural processing objects are linked with each other to form an execution control based on said linking plural processing objects.

4. The method of claim 3, wherein said linking in step (d) comprises at least one of executing said plural processing objects as sub-processing objects, executing said plural processing objects in series or executing said plural processing objects in parallel.
5. The method of claim 1, wherein said processing object is executed several times, each time processing additional semantic units.
6. The method of claim 1, wherein said processing object network comprises a control structure taken from the group consisting of a loop, a branch, a function call, a jump and an execution control.
7. The method of claim 1, wherein said class object network and said processing object network are linked together via said class domain.
8. The method of claim 1, wherein said semantic cognition network uses classifying link objects to process said semantic units, and wherein said data object network and said class object network are linked together via said classifying link objects.
9. The method of claim 1, wherein said data object network and said processing object network are linked together via link objects that are dynamically generated during said processing in step (c) based on said data domain.

10. The method of claim 1, wherein one processing object is unambiguously defined by one data domain, one class domain and one algorithm.

11. The method of claim 1, wherein said processing using said processing object in step (c) comprises the steps of:

(c1) extracting a subset of data objects in said data domain from said data object network; and

(c2) applying said algorithm to each of said data object in said subset of data objects.

12. The method of claim 1, wherein said data domain is a subset of said data object network, said class domain is a subset of said class object network, and said algorithm is a subset of said set of algorithms.

13. The method of claim 1, wherein a single processing object processes said semantic units in at least one of said data object network, said class object network and said processing object network based on said data domain, said class domain and said algorithm.

14. The method of claim 1, further comprising:

(d) defining a special processing object by selecting said data domain, said class domain, said algorithm, an additional data domain in said data object network and an additional class domain in said class object network, wherein said special processing object comprises said data domain, said class domain, said algorithm, said additional data domain and said additional class domain;

(e) performing a morphological operation using said algorithm to combine said semantic units in said data

domain with said semantic units in said additional data domain to create secondary semantic units;

(f) comparing one of said secondary semantic units with a best-fitting one of said semantic units in said additional class domain and accepting or rejecting said one secondary semantic unit according to said fitting, thereby forming a tertiary semantic unit; and

(g) repeating said performing in step (e) and said comparing in step (f) until each tertiary semantic unit fulfills a predetermined criterion and is thereby removed from further processing.

15. The method of claim 14, wherein each step is performed multiple times.

16. The method of claim 14, wherein multiple special processing objects are linked with each other before the performing a morphological operation in step (e) to form an execution control based on how said multiple processing objects are linked.

17. The method of claim 14, further comprising:

(h) defining a super-ordinate special processing object by selecting a special data domain in a special processing object network, said class domain in said class object network and said algorithm in said set of algorithms, said super-ordinate special processing object comprising said special data domain, said class domain and said algorithm;

(i) comparing said special processing object to said semantic units in said class domain; and

(j) removing said special processing object from further processing if said special processing object fulfills a predetermined criterion.

18. A system for extracting information from input data, comprising:

mapping means for mapping said input data into a data object network, said input data comprising semantic units, wherein a semantic cognition network comprises said data object network, a class object network and a processing object network, said semantic cognition network using a set of algorithms to process said semantic units;

defining means for defining a processing object in said processing object network by selecting a data domain in said data object network, a class domain in said class object network and an algorithm from said set of algorithms, said processing object comprising said data domain, said class domain and said algorithm;

processing means for processing said semantic units in said processing object network using said processing object.

19. The system of claim 18, wherein said defining means performs said defining several times, wherein a linking means links said processing object to a second processing object before said processing to form an execution control based on how said processing object is linked to said second processing object.

20. The system of claim 19, wherein said linking means links said processing object to said second processing object by executing said processing objects as sub-

processing objects, by executing said processing objects in series or by executing said processing objects in parallel.

21. The system of claim 18, wherein said processing means executes said processing object multiple times.

22. The system of claim 18, wherein said processing object network comprises a control structure taken from the group consisting of a loop, a branch, a function call, a jump and an execution control.

23. The system of claim 18, wherein said class object network and said processing object network are linked together via said class domain.

24. The system of claim 18, wherein said semantic cognition network uses classifying link objects to process said semantic units, and wherein said data object network and said class object network are linked together via said classifying link objects.

25. The system of claim 18, wherein said data object network and said processing object network are linked together via link objects that are dynamically generated based on said data domain.

26. The system of claim 18, wherein one processing object is unambiguously defined by one data domain, one class domain and one algorithm.

27. The system of claim 18, wherein said processing means extracts a subset of data objects in said data domain from

said data object network and applies said algorithm to each of said data object in said subset of data objects.

28. The system of claim 18, wherein said data domain is a subset of said data object network, said class domain is a subset of said class object network, and said algorithm is a subset of said set of algorithms.

29. The system of claim 18, wherein a single processing object processes said semantic units in at least one of said data object network, said class object network and said processing object network based on said data domain, said class domain and said algorithm.

30. A system for extracting knowledge from a semantic cognition network comprising:

- a data unit network;

- a class unit network;

- an algorithm unit network, wherein semantic units are networked to each other in each of said data unit network, said class unit network and said algorithm unit network;

- defining means for defining a processing unit by selecting a data domain in said data unit network, a class domain in said class unit network and an algorithm domain in said algorithm unit network, each of which being part of said processing unit;

- processing means for processing said semantic units in accordance with said data domain, said class domain and said algorithm domain.

31. A system for extracting information from input data, comprising:

a data object network having a data domain, said data object network receiving said input data, said input data comprising semantic units;

a class object network having a class domain; and

a processing object network having a processing object, wherein a semantic cognition network comprises said data object network, said class object network and said processing object network, wherein said semantic cognition network uses a set of algorithms to process said semantic units, wherein said processing object comprises said data domain, said class domain and an algorithm from said set of algorithms, and wherein said processing object network processes said semantic units using said processing object.

32. The system of claim 31, wherein said processing object network comprises a control structure taken from the group consisting of a loop, a branch, a function call, a jump and an execution control.